

WHAT IS CLAIMED IS:

1        1. A card support assembly comprising:  
2                at least one support member;  
3                a plurality of printed heat generating circuit cards coupled to the  
4 support member and extending non-parallel from the support member, the  
5 plurality of cards, collectively, having a front edge longitudinally spaced from a  
6 rear edge; and

7                at least one flow control member facing the at least one support  
8 member with the cards between the at least one support member and the at  
9 least one flow control member, wherein the at least one flow control member is  
10 substantially imperforate from the front edge to the rear edge.

1        2. The assembly of claim 1, wherein the flow control member is coupled  
2 to the at least one support member.

1        3. The assembly of claim 1, wherein the cards comprise memory  
2 cards configured to store data.

1        4. The assembly of claim 1, wherein the at least one flow control  
2 member comprises a single continuous flow control member.

1        5. The assembly of claim 4, wherein the flow control member is  
2 integrally formed as a single unitary body.

1        6. The assembly of claim 1, wherein the plurality of cards includes a  
2 first card providing the front edge and a second card providing the rear edge.

1        7. The assembly of claim 1, wherein the plurality of cards includes a  
2 plurality of transversely spaced cards.

1        8. The assembly of claim 1, wherein the at least one flow control  
2 member is substantially imperforate in a transverse direction.

1           9.    The assembly of claim 1, wherein the at least one flow control  
2 member has a substantially uniform thickness.

1           10.   The assembly of claim 1, wherein the at least one flow control  
2 member includes deformed sheet metal.

1           11.   The assembly of claim 1, wherein the plurality of cards includes a  
2 card having a first edge proximate the at least one support member and a  
3 second opposite edge, and wherein the assembly further includes a shock  
4 absorber coupled to the at least one flow control member and extending into  
5 engagement with at least a portion of the second edge.

1           12.   The assembly of claim 11, wherein the shock absorber includes a  
2 surface in engagement with at least a portion of the second edge, wherein the  
3 surface is resilient in a direction perpendicular to the edge.

1           13.   The assembly of claim 1, wherein the plurality of cards includes a  
2 first card having a first face and a second card having a second face facing the  
3 first face, the assembly further including a spacer coupled to the at least one  
4 flow control member, the spacer extending between the first face and the  
5 second face.

1           14.   The assembly of claim 13, wherein the spacer is integrally formed  
2 as a single unitary body with the at least one flow control member.

1           15.   The assembly of claim 1 including a gas flow source proximate the  
2 front edge; wherein the at least one flow control member extends at least  
3 substantially proximate to the gas flow source.

1           16.   The assembly of claim 1, wherein the plurality of cards includes a  
2 first card having a first edge proximate the at least one support member and a  
3 second opposite edge, and wherein the at least one flow control member has a  
4 lower surface opposite the second edge and spaced less than 10 millimeters  
5 from the second edge.

1        17. The assembly of claim 1, wherein the at least one support member  
2 includes at least one printed circuit board.

1        18. The assembly of claim 1, wherein the plurality of printed circuit  
2 cards that generate heat are removably coupled to the support member.

1        19. A computing device comprising:  
2                a first circuit board;  
3                a second circuit board connected to the first circuit board;  
4                a plurality of printed heat generating circuit cards coupled to the  
5 support member and extending non-parallel from the support member, the  
6 plurality of cards, collectively, having a front edge longitudinally spaced from a  
7 rear edge; and  
8                at least one flow control member facing the at least one support  
9 member with the cards between the at least one support member and the at  
10 least one flow control member, wherein the at least one flow control member is  
11 substantially imperforate from the front edge to the rear edge.

1        20. The device of claim 19 including an input/output board releasably  
2 connected to the first circuit board.

1        21. The device of claim 20, wherein the input/output board supports a  
2 plurality of input/output cards.

1        22. The device of claim 19 including a processor connected to the first  
2 circuit board.

1        23. The device of claim 19 including a power supply connected to the  
2 first circuit board.

1        24. The device of claim 19 including a processor connected to the first  
2 circuit board.

1        25. The device of claim 19 including a power supply connected to the  
2 first circuit board.

1        26. The device of claim 19, wherein the cards comprise memory cards  
2 configured to store data.

1        27. The device of claim 19, wherein the at least one flow control  
2 member comprises a single continuous flow control member.

1        28. The device of claim 19, wherein the flow control member is  
2 integrally formed as a single unitary body.

1        29. The device of claim 19, wherein the plurality of cards includes a  
2 first card providing the front edge and a second card providing the rear edge.

1        30. The device of claim 19, wherein the plurality of cards includes a  
2 plurality of transversely spaced cards.

1        31. The device of claim 19, wherein the at least one flow control  
2 member is substantially imperforate in a transverse direction.

1        32. The device of claim 19, wherein the at least one flow control  
2 member has a substantially uniform thickness.

1        33. The device of claim 19, wherein the at least one flow control  
2 member includes deformed sheet metal.

1        34. The device of claim 19, wherein the plurality of cards includes a  
2 card having a first edge proximate the second circuit board and a second  
3 opposite edge, and wherein the device further includes a shock absorber  
4 coupled to the at least one flow control member and extending into engagement  
5 with at least a portion of the second edge.

1       35. The device of claim 34, wherein the shock absorber includes a  
2 surface in engagement with at least a portion of the second edge, wherein the  
3 surface is resilient in a direction perpendicular to the edge.

1       36. The device of claim 19, wherein the plurality of cards includes a  
2 first card having a first face and a second card having a second face facing the  
3 first face, the device further including a spacer coupled to the at least one flow  
4 control member, the spacer extending between the first face and the second  
5 face.

1       37. The device of claim 36, wherein the spacer is integrally formed as a  
2 single unitary body with the at least one flow control member.

1       38. The device of claim 19 including a gas flow source proximate the  
2 front edge, wherein the at least one flow control member extends at least  
3 substantially proximate to the gas flow source.

1       39. The device of claim 19, wherein the plurality of cards includes a  
2 first card having a first edge proximate a second circuit board and a second  
3 opposite edge, and wherein the at least one flow control member has a lower  
4 surface opposite the second edge and spaced less than 10 millimeters from the  
5 second edge.

1       40. The device of claim 19 including a power supply connected to the  
2 first circuit board.

1           41. A method for assembling a card support, the method comprising:  
2                   mounting a plurality of printed heat generating circuit cards to a  
3                   support member, wherein the cards collectively have a first end edge  
4                   longitudinally spaced from a second end edge; and  
5                   mounting at least one flow control member proximate the plurality  
6                   of cards such that the plurality of cards extend perpendicular between the  
7                   support member and the at least one flow control member, wherein the at least  
8                   one flow control member is substantially imperforate from the first end edge to  
9                   the second end edge.

10           42. The method of claim 41, wherein the heat generating circuit cards  
11           comprise memory cards configured to store data.